

[INCH-POUND]

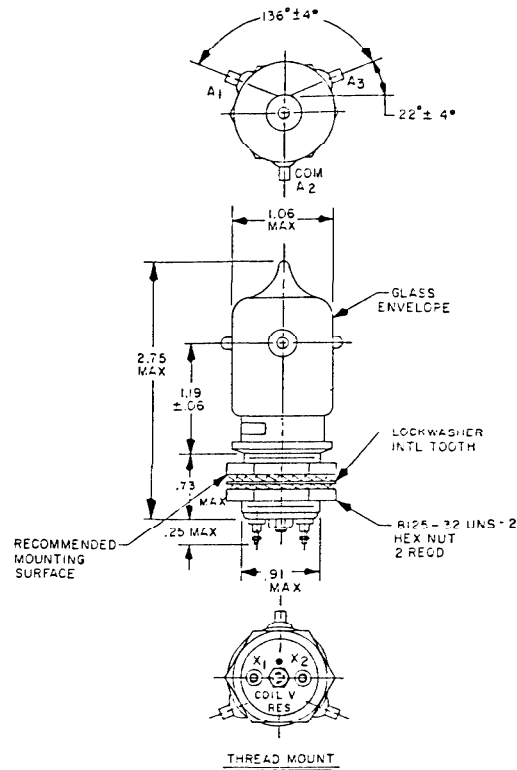
MIL-R-83725/1E
17 March 1989
~~SUPERSEDING~~
MIL-R-83725/1D
4 March 1986

MILITARY SPECIFICATION SHEET

RELAYS; VACUUM, SPDT, 15 AMPERES RMS,
12 KILOVOLTS (PEAK)

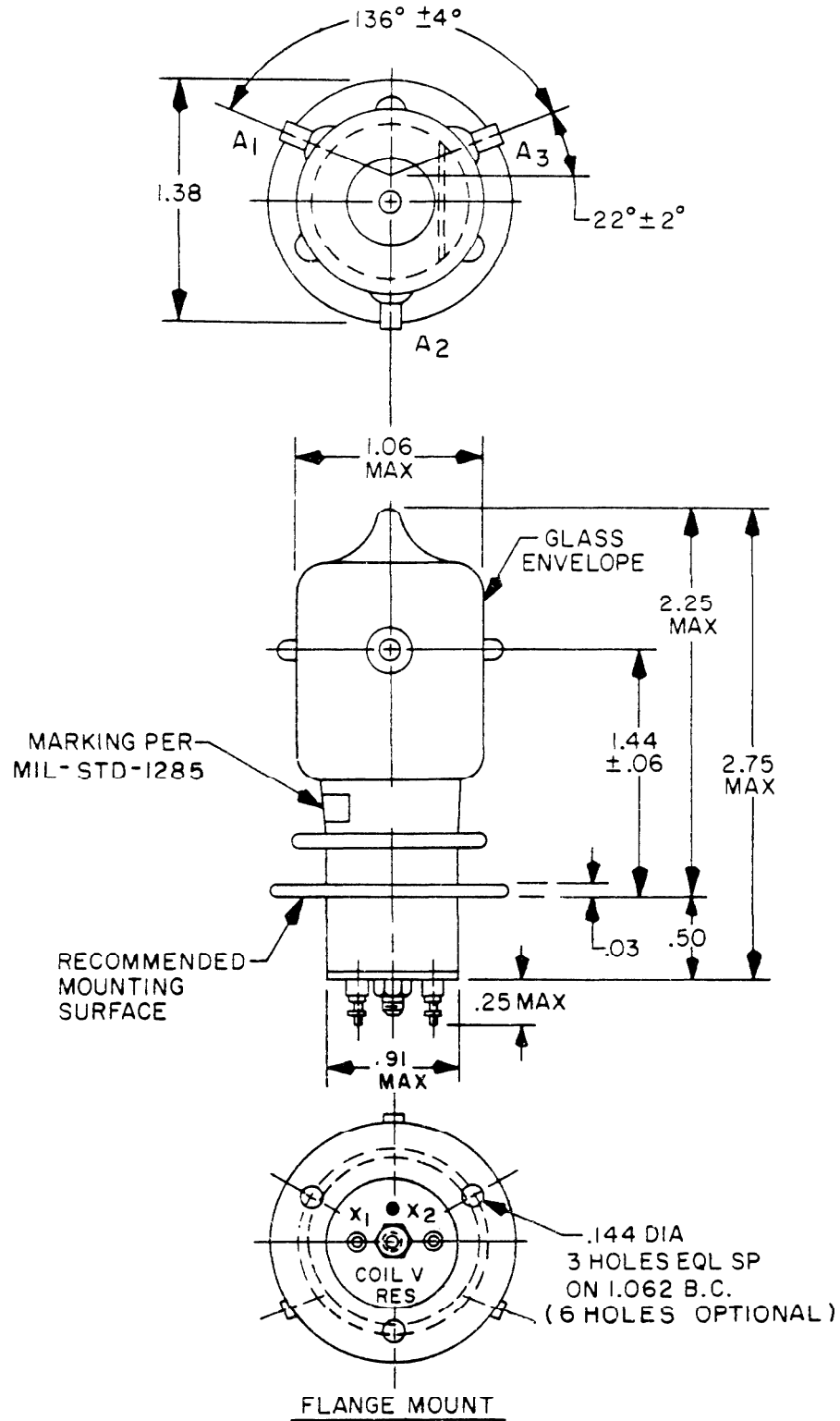
This specification sheet is approved for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the product described herein shall consist of this specification sheet and the issue of the following specification listed in that issue of the Department of Defense Index of Specifications and Standards (DODISS) specified in the solicitation: MIL-R-83725.

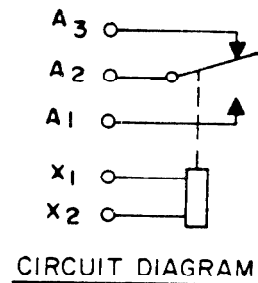
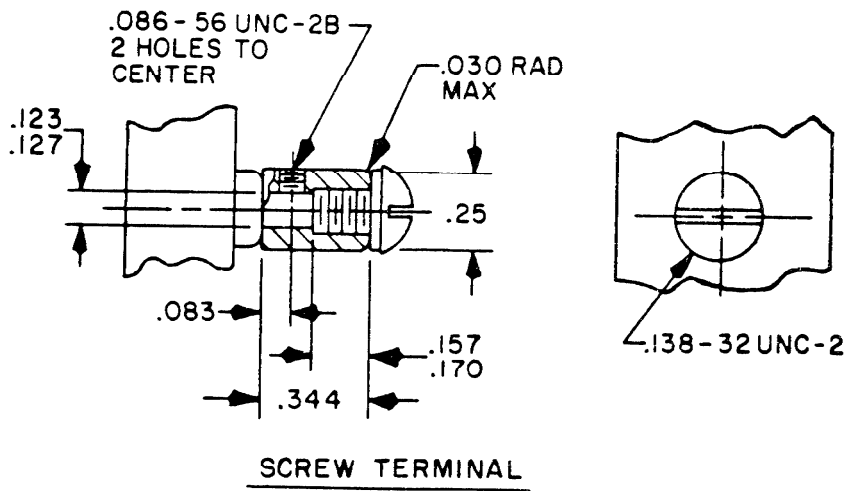
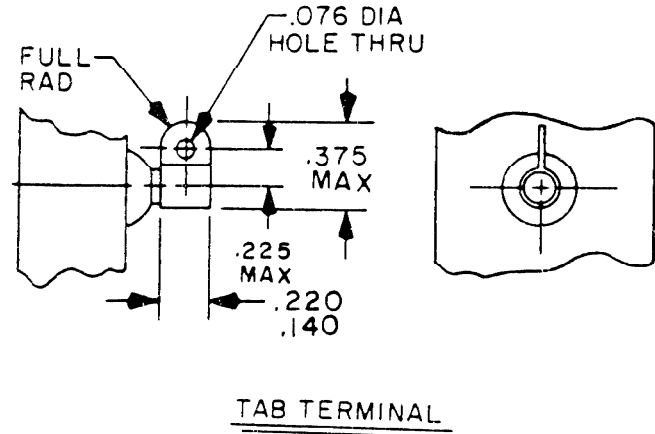
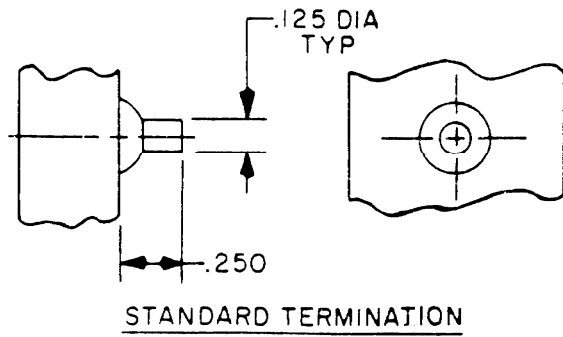


(E) FIGURE 1. Dimensions and configuration.

(E) denotes changes



Ⓔ FIGURE 1. Dimensions and configuration - Continued.



Inches	mm	Inches	mm	Inches	mm	Inches	mm
.030	0.80	.138	3.51	.344	8.74	1.060	26.92
.060	1.50	.140	3.56	.375	9.53	1.062	26.97
.076	1.93	.144	3.66	.500	12.70	1.190	30.20
.083	2.11	.157	3.99	.680	17.30	1.380	35.10
.086	2.18	.170	4.32	.730	18.54	1.440	36.60
.123	3.12	.220	5.59	.810	20.64	2.250	57.20
.125	3.18	.225	5.72	.8125	20.638	2.750	69.80
.127	3.23	.250	6.40	.910	23.11		

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerances are $\pm .010$ (0.25 mm) for three place decimals and $\pm .03$ (0.8 mm) for two place decimals.
4. Part number shall be permanently marked on the relay envelope.

FIGURE 1. Dimensions and configuration - Continued.

REQUIREMENTS:

CONTACT DATA:

Configuration: SPDT.

Arrangement: 1 form C.

Load ratings: (carry)

Resistive:

15 amperes rms, dc or 60 Hz.

10 amperes rms, 2.5 MHz.

6 amperes rms, 16 MHz.

Voltage ratings:

12 kilovolts peak, dc or 60 Hz.

10 kilovolts peak, 2.5 MHz.

8 kilovolts peak, 16 MHz.

Contact resistance:

Rated life:

Before: .012 ohm maximum.

During: .100 ohm maximum.

After: .100 ohm maximum.

Contact bounce: Not applicable.

Capacitance:

1 picofarad maximum across open contacts.

1.5 (2.0 for -003 and -006) picofarads maximum between open contacts and ground.

COIL DATA:

Duty rating: Continuous.

Maximum voltage: 32 V dc.

Nominal voltage: 26.5 V dc.

Pickup voltage: 23 V dc maximum over temperature range; 20 V dc maximum at +85°C maximum.

Dropout voltage: 1 V dc minimum over temperature range.

Coil resistance: 265 ohms ±10 percent.

Operate time: 18 milliseconds maximum over temperature range.

Release time: 8 milliseconds maximum over temperature range.

ELECTRICAL DATA:

Insulation resistance: 1,000 megohms minimum, except the resistance between coil and housing at high temperature shall be 500 megohms or greater.

Dielectric withstanding voltage:

At atmospheric pressure:

Between all mated contacts in the open position: 15 kilovolts peak, dc or 60 Hz.

Between high voltage terminals and housing: 15 kilovolts peak, dc or 60 Hz.

Between coil and housing: 500 V rms, 60 Hz.

At reduced barometric pressure: In accordance with MIL-STD-202, method 105, test condition C. Relays shall be mounted by normal mounting means. Points of application: Same as "at atmospheric pressure" except test voltage applied shall be 350 volts rms with all terminals grounded. Following the test, relays shall be examined for evidence of arcing, flashover, insulation breakdown, and damage.

ENVIRONMENTAL DATA:

Temperature range: -55°C to +125°C.

Vibration: MIL-STD-202, method 204, test condition B, except 5 G instead of 15 G.

Shock: MIL-STD-202, method 213, test condition J.

PHYSICAL DATA:

Terminal strength: 5 pounds pull.

Dimensions and configuration: See figure 1.

Termination: See figure 1 and table I.

Weight: 4 ounces maximum.

LIFE TEST REQUIREMENTS:

Mechanical cycling: 100,000 operations; 2 sample units (maximum cycling rate, 18,000 per hour; contact current shall not exceed 10 milliamperes).

QUALITY ASSURANCE:

Dielectric withstanding voltage: Tests to be conducted at atmospheric pressure rating only.

Duration of application: 5 to 10 seconds at a 10 percent increase in the dielectric withstanding voltage.

PART NUMBER: See table I.

TABLE I. Part numbers and characteristics.

Military part number	Termination	Mount
M83725/1-001	Standard	Thread
M83725/1-002	Tab	Thread
M83725/1-003	Screw	Thread
M83725/1-004	Standard	Flange
M83725/1-005	Tab	Flange
M83725/1-006	Screw	Flange

CONCLUDING MATERIAL

Custodians:

Army - ER
Navy - EC
Air Force - 85

Review activities:

Navy - SH
Air Force - 17, 99
DLA - ES

User activities:

Army - AT, AV, ME
Navy - MC

Preparing activity:

Air Force - 85

Agent:

DLA - ES

(Project 5945-0787-01)